



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D5518-1

Job Sheet 170289



Part No: D5518-1

Job Qty: 50 ea

Part Name: Crossbolt Spacer



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/12/18

Job Tracking No:

Created By: Mario Poulin

Due Date: 2/2/18

Description:

Note: IPP REV:A 17.05.05 NEW ISSUE DD VERF:JFS IPP REV:B 17.11.03 AS PER DWG REV:A DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	50 Ea	1/18/18	1/18/18	0.00	0.00	Start Up Machining-4		J.B. DAS 23
100	Hardinge	50 pcs	1/19/18	1/19/18	0.00	2.31	Hardinge		9-89
110	QC	50 pcs	1/19/18	1/19/18	0.00	0.00	QC2 Machining-4		
120	QC	50 pcs	1/19/18	1/19/18	0.00	0.00	QC8 Machining-4		F.K. 18-2-6
130	Outsource	50 pcs	2/1/18				MEI001-VC Outsourced		AT 18/2/23
140	Packaging	50 pcs	2/1/18	0.00	0.00		Packaging2		AT 18/2/23
150	QC	50 pcs	2/1/18	0.00	0.00		QC6		
160	HandFinish	50 pcs	2/2/18	0.00	0.26		HandFinish4		
190	Packaging	50 pcs	2/2/18	0.00	0.00		Packaging3-2		
200	QC21-SA	50 Ea	2/2/18	0.00	0.00		QC21		18/03/09

Part Op 100 - 1- Machine as per Folio FB FOLIO REV: _____ DWG REV: _____ ***DO NOT CHAMFER OUTSIDE DIA***
Descriptions: 2- Deburr ID

130 - PO to Metcor: HEAT TREAT TO T4/T42 CONDITION MIN. UTS=30 KSI (60 HREW MIN) NOTE: DETAIL C OF C
REQUIRED PART ARE MADE FROM 6061-T6 MATERIAL

160 - WASH SPACER AS PER QSI005

190 - ***STOCK IN SKIDTUBE CELL*** LOCATION : LG001

PO 035999

DAS
21
9-89

FEB 09 2018

QNB

MAR 12 2018

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	M6061T6T0.375W.058	18	268	0	0

Part Specifications

Specifications could not be found.

Plex 1/12/18 2:15 PM dart.poulin.mario

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part N _____ NCR N _____ Date : _____ Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K64 1K7 CANADA TEL.: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com	DISPOSITION Start up Operation 02/06/18 Job No: 170289	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">AGAINST DEPARTMENT/PROCESS</th> </tr> <tr> <td style="width:25%;"> Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ </td> <td style="width:25%;"> Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ </td> <td style="width:25%;"> Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ </td> <td style="width:25%;"> Engineering ☐ Quality ☐ Other ☐ </td> </tr> <tr> <td colspan="3">QTY Effective : _____</td> <td>MRB (QSI042) Approval</td> </tr> <tr> <td colspan="3" style="height: 150px; vertical-align: top;">Disposition</td> <td>Completed By</td> </tr> <tr> <td colspan="3"></td> <td>Lead hand / Supervisor Approval Verification</td> </tr> <tr> <td colspan="3"></td> <td>QC / QA Coordinator Approval</td> </tr> </table>		AGAINST DEPARTMENT/PROCESS				Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐	Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐	Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	Engineering ☐ Quality ☐ Other ☐	QTY Effective : _____			MRB (QSI042) Approval	Disposition			Completed By				Lead hand / Supervisor Approval Verification				QC / QA Coordinator Approval
AGAINST DEPARTMENT/PROCESS																											
Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐	Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐	Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	Engineering ☐ Quality ☐ Other ☐																								
QTY Effective : _____			MRB (QSI042) Approval																								
Disposition			Completed By																								
			Lead hand / Supervisor Approval Verification																								
			QC / QA Coordinator Approval																								
S039301 Crossbolt Spacer PART NO: D5518-1 Original Serial #: S039301 Revision: Operation: Change No:	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="3" style="text-align: center;">FAULT CATEGORY</th> </tr> <tr> <td style="width:33%;"> ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes </td> <td style="width:33%;"> ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center </td> <td style="width:33%;"> ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence </td> </tr> </table>			FAULT CATEGORY			☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes	☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center	☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence																		
FAULT CATEGORY																											
☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes	☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center	☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence																									
Environ _____ Di _____ Doc/ _____ Equip/To _____ Handling _____ Ma _____ Internal Tran _____ Tribal Know _____ Subst. _____ Past Expiry Date ☐ _____ Misidentified ☐ _____	Manufacturing Process _____ Past Due ☐ _____ OTHER : _____																										



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038999

Drop Ship

Re: Group Altech PO 39002

Supplier: MEI001-VC
Metcor Inc.
560 Boul. Arthur Sauve
Saint-Eustache
QC
J7R 5A8 Canada
Phone: 450 473 1884
Fax: 450 491 5498

PO No: PO038999
PO Date: 2/8/18
Due Date: 2/13/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

E-MAILED
FEB-13-2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	170907	C3-12-1	Lock Bushing 1-Issue P/O to Metcore ; P/O _____ HEAT TREAT TO T4/T42 CONDITION MIN. UTS=30 KSI (60 HREW MIN) NOTE: DETAIL C OF C REQUIRED Part made from 4140 Round Bar .750 Metcore to ship directly to Groupe Altech	Firmed	2/13/18	40 pcs	0 pcs	40 pcs	\$7.50/pcs	\$300.00
2	170175	RBW6705G02131-3G	Rigging Pin Assembly N2 1--Issue P/O to Metcore ; P/O _____ RC: 26-30 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER To ship directly to Groupe Altech Part made from 01R Tool Steel Ship Directly to Group Altech	Firmed	2/13/18	6 pcs	0 pcs	6 pcs	\$25.00/pcs	\$150.00
3	170178	RBW6705G02231-3G	Rigging Pin Assembly N3 1--Issue P/O to Metcore ; P/O _____ RC: 26-30 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER To ship directly to Groupe	Firmed	2/13/18	4 pcs	0 pcs	4 pcs	\$25.00/pcs	\$100.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038999

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
			Altech Part made from 01R Tool Steel							
4	170181	RBW6705G02331-3G	Rigging Pin Assembly N4 1--Issue P/O to Metcore ; P/O _____ RC: 26-30 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER To ship directly to Groupe Altech Part made from 01R Tool Steel	Firmed	2/13/18	2 pcs	0 pcs	2 pcs	\$25.00/pcs	\$50.00
5	171452	D4202-1	Spacer HEAT TREAT TO T4/T42 CONDITION MIN. UTS=30 KSI (60 HREW MIN) NOTE: DETAIL C OF C REQUIRED Part made from 6061-T6 Round Tube .500x.058W	Firmed	2/13/18	500 pcs	0 pcs	500 pcs	\$1.21362/pcs	\$606.81
						500x			At 18/06/23	
6	168221	646.3014	Blade FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL	Firmed	2/13/18	11 pcs	0 pcs	11 pcs	\$28.41/pcs	\$312.51
						11x			At 18/02/21	
7	170289	D5518-1	Crossbolt Spacer PO to Metcor: HEAT TREAT TO T4/T42 CONDITION MIN. UTS=30 KSI (60 HREW MIN) NOTE: DETAIL C OF C REQUIRED PART ARE MADE FROM 6061-T6 MATERIAL	Firmed	2/13/18	50 pcs	0 pcs	50 pcs	\$1.21362/pcs	\$60.68
						50x			At 18/02/23	
Grand Total:									\$1,580.00	

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
325327	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM	
38999	N/A	AL-6061			
SPECIFICATIONS DU PROCÉDÉ processing specifications SOL ANNEAL SINGLE AGING TO CONDITION T42					
EXIGENCE / requirement	SPÉCIFICATIONS / specified		TESTS EXÉCUTÉS / performed		RÉSULTATS DE TESTS / results
CONDUCT	36 - 44 %IACS		110	40.8 - 42.7 %IACS	
			(60 kHz)		
HARDNESS	60 HREW MIN		110	64 - 68 HREW	
			MESURE EN HR15TW = 64,5-67 HR15TW		
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description			
550	17.25	D4202-1 (500) D4202-1 JOB. 171452 (50) D5518-1 JOB 170289 1 BOITE DE CARTON			

COMMENTAIRES / comments

SOL. ANNEAL 985F, 30 MIN
AGE HARDEN AMBIANT

Heat treatment (HT) was performed with equipment that meets the requirements of requested specification. All HT operations were performed in compliance with the required HT specification and all verifications have been performed and documented. No unauthorized changes were performed in regards to the HT. We certify that the material was manufactured, sampled, tested and inspected in accordance with the material specification and the purchase order and was found to meet the requirements.

This document and any attached documents may contain confidential or proprietary information and may be subject to export control laws and regulations. If you are not the intended recipient, you are notified that any dissemination, copying of this e-mail and any attachments thereto or use of their contents by any means whatsoever is strictly prohibited. Unauthorized export or re-export is prohibited.

Le traitement thermique (TT) a été fait en utilisant des équipements en conformité avec la spécification demandée. Toutes les opérations de TT ont été faites en conformité avec les requis de la spécification demandée et toutes les vérifications et les tests demandés ont été faites et documentés. Aucun changement n'a été faite par rapport au TT. On certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec les spécifications du matériel et le bon de commande et le matériel rencontre les exigences spécifiées.

Ce document et les documents qui lui sont joints peuvent contenir des informations confidentielles, être soumis aux réglementations relatives au contrôle des exportations ou ayant un caractère privé. S'ils ne vous sont pas destinés, nous vous signalons qu'il est strictement interdit de les divulguer, de les reproduire ou d'en utiliser de quelque manière que ce soit le contenu. Toute exportation ou réexportation non autorisée est interdite.

Isabel Otero
QA Technician

METCOR
12

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
325327	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K8A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K8A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
38999	N/A	AL-6061		

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

SOL ANNEAL

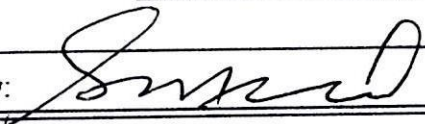
SINGLE AGING TO CONDITION T42

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
CONDUCTIVITY	36 - 44 %IACS	110	40,8 - 42,7 %IACS
HARDNESS	60 HREW MIN	110	64 - 68 HREW
MESURE EN HR15TW = 64,5-67 HR15TW			

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
550	17,25	D4202-1 (500) D4202-1 JOB. 171452 (50) D5518-1 JOB 170289 1 BOITE DE CARTON

COMMENTAIRES / comments

APPROUVÉ par / Approved by:



METCOR
7

DATE: 2018-02-19

APPROUVÉ